

On some Aphodiinae
(Coleoptera: Scarabaeidae)
from the Muséum d'Histoire naturelle
in Genève

by

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With 10 figures

ABSTRACT

Two new species of *Aphodius* Illig. and one new species of *Ataenius* Har. are described and illustrated, the species *Aphodius (Mendidaphodius) makolskii* Roub. is considered synonymous with *A. (Orodaliscus) rotundangulus* Reitt. The subgenus *Orodaliscus* Reitt. is redefined, key to the species and notes on distribution and habitat are included.

INTRODUCTION

In 1987 I had the chance to continue my studies on the large collections of Aphodiinae in the Muséum d'Histoire naturelle in Genève. The examination of unidentified material coming from Iran, Thailand and Sumatra revealed the presence of three new species described herein. The statement of one specimen of *Aphodius rotundangulus* Reitt. in Petrovitz' collection enables to determine the synonymies and to extend the distribution area of the mentioned species occurring in Poland.

The specimens examined are deposited in the collection of the Muséum d'Histoire naturelle in Genève (MHNG) and secondly, in the collection of the Institute of Systematic and Experimental Zoology (ISEZ), Polish Academy of Sciences in Kraków.

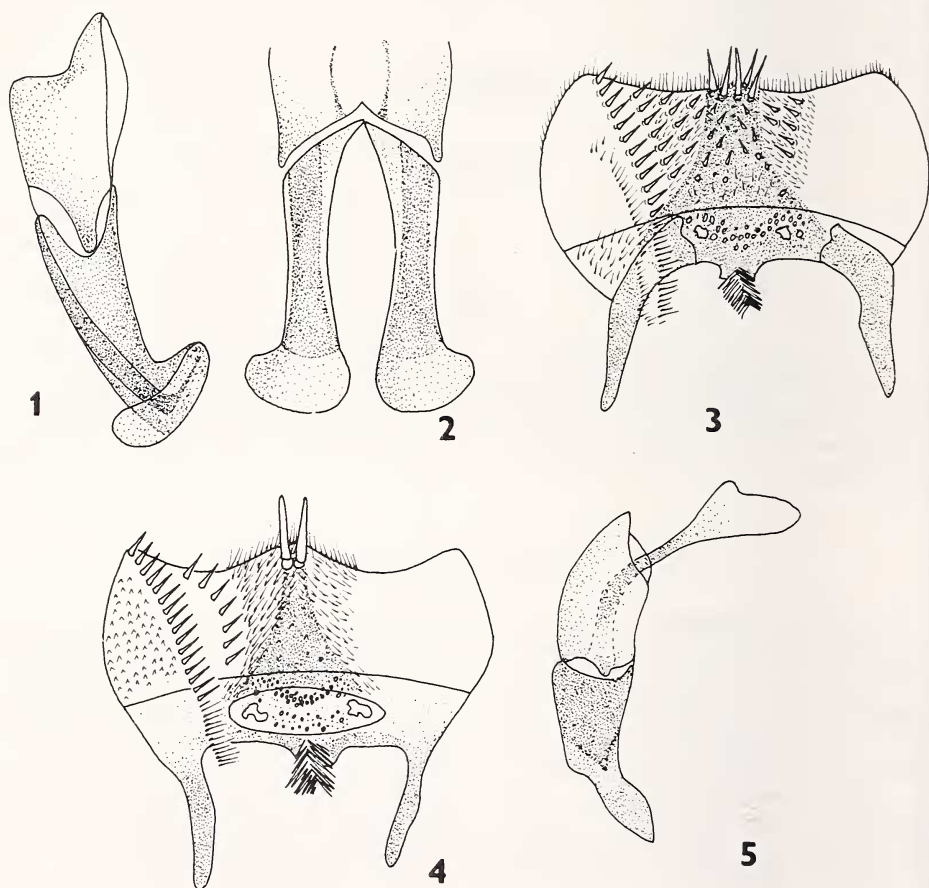
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***Aphodius (Melinopterus) imamae* n. sp. (Figs 1-3)**

Type material. Holotype male: IRAN, Elburs-Demarand, Imam Sadeh (2300 m), 1.IV.1962, J. Klap-perich (MHNG); Paratypes, 29, the same data as holotype (MHNG, ISEZ).

Length 3.7-5.0 mm, greatest width 1.5-2.0 mm. Body oblong oval, moderately convex, shining; basic colour of the head and pronotum black, anterior of head, sides of pronotum, elytra and legs reddish brown, each elytron with darker spot situated at side behind the middle; apex of elytra more or less distinctly piliferous. Head rather wide with longitudinal convexity at middle, clypeal margin finely reflexed, broadly rounded each side of shallow median emargination, slightly emarginate before small, right-angled genae; surface punctures not close, shallow, mixed very fine and fine, separated by their diameters or more. Pronotum rectangular, sides visible from directly above, base



FIGS 1-5.

1-3. *Aphodius (Melinopterus) imamae* n. sp.: 1. aedeagus laterally; 2. paramerae dorsally; 3. epipharynx. 4-5. *A. (Plagiogonus) khaoensis* n. sp.: 4. epipharynx; 5. aedeagus laterally.

marginated, anterior angles rounded, sides arcuate toward obtusely rounded posterior angles; the punctures on the disc very fine to fine, scattered, closer and larger toward the sides, much more coarse and large along lateral margins. Scutellum triangular with a few punctures at base. Elytra widest just behind the middle, moderately convex; striae narrow, the shallow punctures weakly crenating inner margins of the intervals; intervals feebly convex, shining, finely punctate. Abdominal sterna shagreened, finely punctate with a row of yellow setae. Hind femora moderately wide, minutely punctate; lateral teeth of fore tibia sharply pointed, terminal spur slender, acute; middle and hind tibiae setaceous with distinct transverse ridges, apical setae unequal in length, apical spurs thin; first segment of posterior tarsus subequal to the upper tibial spur and longer than the following two segments combined.

Male. Pronotum as wide as elytra, surface punctures less close and finer than in female. Lateral and apical part of elytra distinctly piliferous. Metasternum flat, midline strongly impressed, surface punctures bearing short, yellow setae.

Female. Pronotum narrower than elytra, surface punctures more coarse and closer than in male. Apical part of elytra inconspicuously piliferous. Metasternum feebly concave, midline weakly impressed, surface nude with fine punctures.

Epipharynx. The bristles of chaetoparia moderately long and moderately thick; numerous bristles of chaetopodium somewhat shorter and thicker than those of chaetopodium; the remaining setae of pedium and paria thin, moderately long.

V a r i a t i o n . Occasionally the disc of pronotum do not show the punctures and the elytral intervals appear impunctate. Colour varies slightly and the series is relatively uniform.

A f f i n i t y . In superficial appearance, the species resembling *A. imamae* n. sp. is *A. edithae* Reitt. known from Caucasia, but *A. edithae* has the sides of pronotum and base of elytra yellow, basic colour of elytra dark brown or black, elytral intervals strongly convex and first segment of posterior tarsus a trifle longer than the next three segments combined.

Aphodius (Plagiogonus) khaoensis n. sp. (Figs 4-5)

Type material. Holotype male: THAILAND, NE Bangkok, Khao Yai Nat. Park, 750-850 m, 26.XI-3.XII.1985, Burckhardt et Löbl (MHNG); Paratypes, 3, the same data as holotype (MHNG, ISEZ).

Length 2.8-3.0 mm, greatest width 1.0-1.1 mm. Oblong oval, moderately convex, shining; fore body, legs and elytral suture brown, elytra lighter, yellowish brown. Head convex, clypeal margin reflexed, obtusely rounded each side of moderate median emargination, sides nearly straight to very small, slightly protrudent setaceous genae; surface with a row of fine setaceous punctures along anterior margin, median convexity minutely punctate, frontal suture distinctly impressed. Pronotum rectangular, sides narrowly margined, slightly arcuate to obtusely rounded and margined posterior angles, base feebly arcuate without marginal line; surface punctures mixed fine to moderate, separated by two or three their diameters, the punctures near lateral margins of pronotum very fine. Scutellum triangular, alutaceous, minutely punctate. Elytra widest behind the middle, humeri without trace of denticles, apex inconspicuously emarginate at suture; striae of median and basal area fine with close fine punctures faintly crenating inner margins of

the intervals, striae of apical and lateral areas deeper with moderate, distant punctures; intervals very minutely alutaceous, impunctate, moderately convex in basal three-fourths, much more convex in apical declivity; the carina of 7th and 9th intervals united as convex as the neighbouring intervals. Metasternum convex, shining, minutely punctate, midline distinctly impressed. Abdominal sterna minutely alutaceous, setaceous and finely punctate. Middle and hind femora strongly shining, smooth; anterior tibia with three well separated lateral teeth and thin, sharply pointed terminal spur; middle and hind tibiae slender, setaceous, apical setae rather long, nearly equal in length, apical spurs thin; first posterior tarsal segment as long as the upper tibial spur and a trifle shorter than the next three segments combined.

Female. The punctures of pronotum more closely distributed than in male.

Epipharynx. The bristles of chaetoparia long and thin; 7-8 bristles of chaetopodium the same size as those of chaetoparia; paria nude, the scarce setae of pedium thin.

A f f i n i t y . The new species is very closely allied to *A. burgaltaicus* Csiki known from Mongolia, but is distinguishable by its coloration and by fine to moderate striae punctures faintly crenating inner margins of the impunctate intervals.

Subgenus: **Orodealiscus** Reitter, 1900

D i a g n o s i s . Body convex, moderate in size, upper side nude, colour black, reddish black or reddish brown. Head moderately convex without tubercles, anterior edge of clypeus denticulate or right-angled each side of median emargination, genae small. Pronotum as wide as elytra, sides and base distinctly margined, posterior angles broadly rounded, in males quite arcuate from sides to base, in females sometimes slightly truncate. Scutellum parallel-sided at base. Elytra elongated, striae distinctly impressed, intervals convex or flat. Transverse ridges of middle and hind tibiae well developed, apical setae unequal in length, longest at external angle of tibia; apical spurs slender. Tarsi long. Terminal spur of anterior tibia in male robust, bent inward, sometimes anterior tibia of male otherwise shaped than in female.

Distribution. Central Asia, East Europe and eastern part of Middle Europe.

Type species: *Aphodius (Orodealiscus) rotundangulus* Reitt.

REMARKS. Some morphological characters are useful in recognizing *Orodealiscus*-species, the most important being the shape of pronotum, slender tarsi and overall appearance, however, the presence of long apical setae at external side of tibiae suggests their affiliation to the group *Mendidaphodius* Reitt.

Apart from *A. rotundangulus* Reitt. (see remarks under that species) the subgenus includes presently *A. angulatulus* A. Schm. and *A. ghilarovi* Medv. (1968), not available for study in connection with the present report. Both species were recorded from Uzbekistan, vicinity of Samarkand and, when examining the collections in Leningrad and Moscow, I found a single specimen of *A. angulatulus* labelled "vicinity of Bukhara". The individuals of *A. ghilarovi* were taken from the nest of mouse but nothing is known about the habitat of *angulatulus*. The scarcity of specimens in the collections may indicate a restricted habitat and quite likely *A. angulatulus* also occurs in some rodent nest. Many of the rare species of *Aphodius* were found in the burrows of rodents and were seldom, if ever, taken outside of their particular niche.

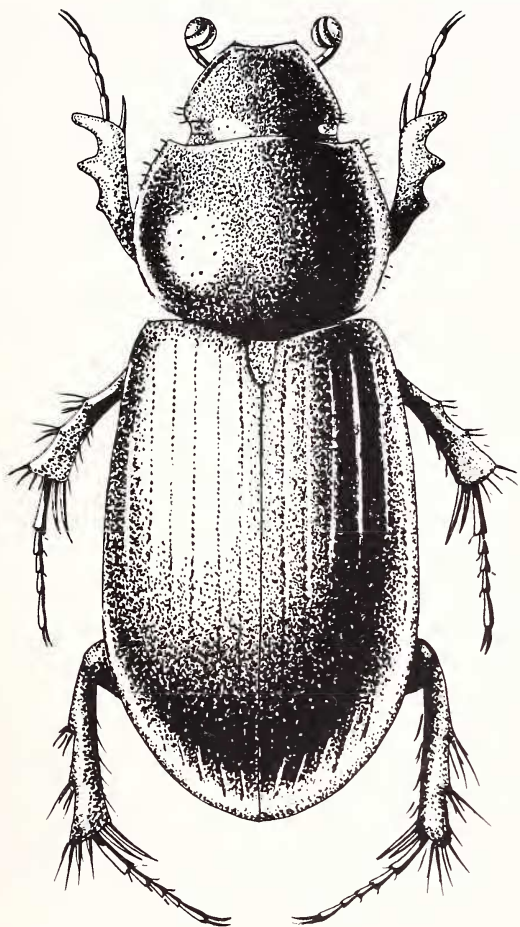


FIG. 6.

Aphodius (Orodaliscus) rotundangulus Reitt., habitus of female.

***Aphodius (Orodaliscus) rotundangulus* Reitt. (Figs 6-7)**

Aphodius (Orodaliscus) rotundangulus Reitter, 1900, *D. ent. Z.*: 84; SEMENOV 1905, *Revue russe Ent.*, 5: 133; A. SCHMIDT 1922, Aphodiinae, in: *Tierreich* 45: 245; BALTHASAR 1964, *Monographie* 3: 321-322; NIKOLAJEV 1980, *Trans. Inst. Zool.*, 39: 65. Locus typicus: South Ukraine, vicinity of Kharkov.

Aphodius (Orodaliscus) fortimargo Reitter, 1907, *D. ent. Z.*: 409; A. SCHMIDT 1922, Aphodiinae, in: *Tierreich* 45: 258, 261; BALTHASAR 1964, *Monographie*, 3: 193; NIKOLAJEV 1980, *Trans. Inst. Zool.* 39: 65. Locus typicus: Kazakh SSR, vicinity of Uralsk.

Aphodius (Mendidaphodius) batesoni Semenov et Medvedev, 1928, *Revue russe Ent.* 22: 101 (female); BALTHASAR 1964, *Monographie* 3: 104; NIKOLAJEV 1974, *Trans. Inst. Zool.*, 35: 85; NIKOLAJEV 1980, *Trans. Inst. Zool.*, 39: 65. Locus typicus: Kazakh SSR, Kazalinsk-Karkaralinsk.

Aphodius (Mendidaphodius) makolskii Roubal, 1936, *Ent. Blätter*, 32: 99; BALTHASAR 1964, *Monographie* 3: 104-105; STEBNICKA & SZYMCAKOWSKI 1972, *Acta Rer. Natur. Mus. nat. Slov.*, 18 (1): 131-134, figs 1-6, **syn. nov.** Locus typicus: West Ukraine, Podole, Zaleshchyki. Additional stands: Kazakh SSR — Aktyubinsk, Pavlodar; Bashkir SSR — Sterlitamak; SE Poland-Grodek, 6 km SE Hrubieshow; Gliniska near Grabowiec, Reserve of *Citellus suslicus* Guel.

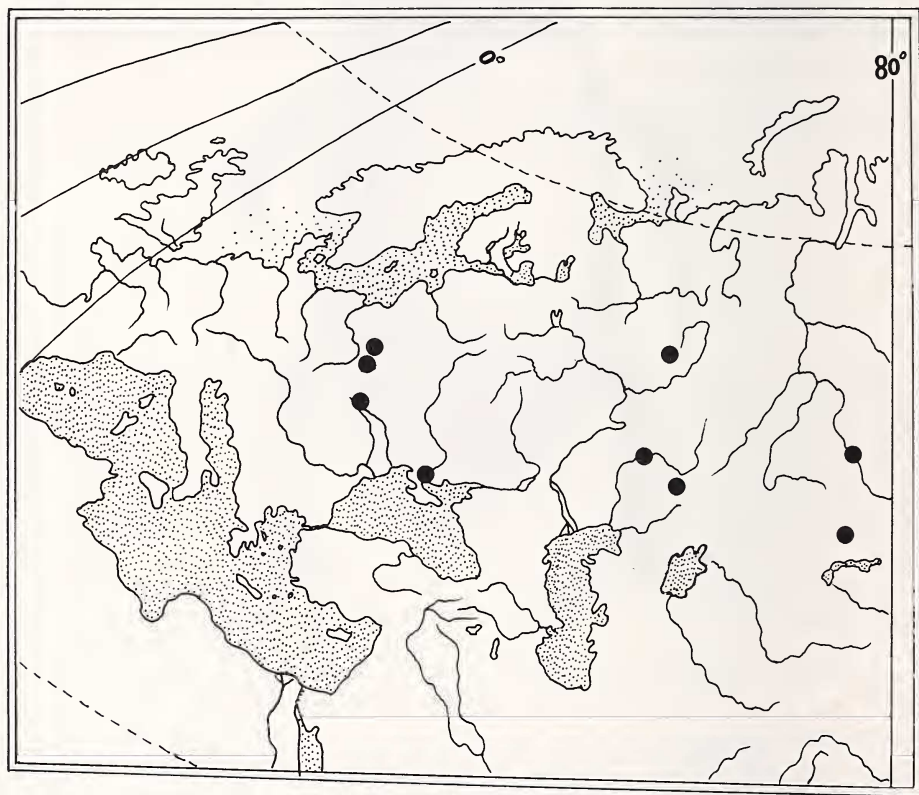


FIG. 7.

Distribution of *Aphodius (Orodaliscus) rotundangulus* Reitt.

REMARKS. The names *A. batesoni* Sem. et Medv. and *A. fortimargo* Reitt. were synonymized by NIKOLAJEV (1980) who wrote in Russian: "comparison of the type-specimens of the mentioned forms with previously described *A. rotundangulus* Reitt. revealed the identity of all these forms". After studying some available material and original descriptions I can propose the new synonymy. The material examined includes one specimen from South Ukraine designated as "cotype" of *A. rotundangulus* kept in

the Zoological Museum in Moscow and the specimen from Geneva Museum bearing the labels combined with Latin and Cyrillic: "Paratypus (?), *A. rotundangulus*, Sem. et Medv. det.; Askanya Nova (South Ukraine), 18.IV.1928, Madvedev, in burrow of souslik". Both specimens quite correspond with the original descriptions as well as with original material of *A. makolski* Roub. (SZYMCAKOWSKI & STEBNICKA 1972). The species was found in Poland exclusively in the burrows of *Citellus suslicus* Gueld. (Spotted Souslik), the distribution of which is limited to the eastern parts of Europe and to the Central Asia. The specimens were all collected in the spring within the burrow entrance where they appear occasionally. A possible explanation of seeming rarity of *A. rotundangulus* may stem from the fact that it resides in the central chambers of the rodent nests situated deeply in the dusty soil. Movement of beetles from one burrow to another probably occurs late in the afternoon or on a cloudy morning, but none was ever observed on the wing.

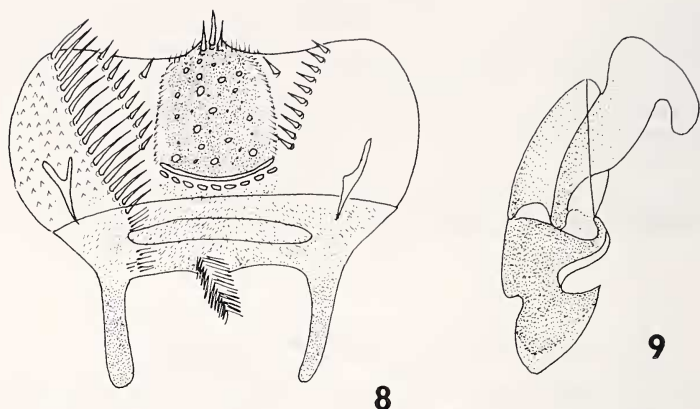
Key to the species of the subgenus *Orodaliscus* Reitt.

1. Anterior edge of clypeus faintly emarginate, distinctly denticulate each side of median emargination. Elytra parallel-sided, stria punctures large, distinctly crenating inner margins of the intervals. First segment of posterior tarsus shorter than the upper tibial spur *A. angulatulus* A. Schm.
- Anterior edge of clypeus greatly emarginate, denticulate or right-angled each side of median emargination. Elytra widened toward apex, stria punctures fine, not crenating inner margins of the intervals. First segment of posterior tarsus longer than the upper tibial spur 2
2. Fore body and elytra brownish red. Anterior edge of clypeus distinctly denticulate each side of median emargination. First segment of posterior tarsus as long as the next three segments combined *A. ghilarovi* Medv.
- Fore body and elytra black or elytra brownish red. Anterior edge of clypeus right-angled each side of median emargination. First segment of posterior tarsus subequal to the next two segments combined *A. rotundangulus* Reitt.

Ataenius ambaritae n. sp. (Figs 8-9)

Type material. Holotype male: SUMATRA, Lac Toba, Ile de Samosir, Ambarita, IV.1977, T. Jaccoud (MHNG); Paratypes, 18, the same data as holotype (MHNG, ISEZ).

Length 3.0-3.2 mm, greatest width 1.0-1.2 mm. Oblong-ovate, weakly shining, black or reddish black, anterior of head and legs reddish brown. Head convex, strongly declivitous anteriorly, clypeal margin distinctly reflexed, triangularly dentate each side of wide, moderately deep median emargination, sides slightly arcuate to rounded genae; surface along anterior margin with triangular, strongly shining and smooth area bordered above by fine carina, clypeus over greatest convexity and above with close lengthwise elongated, very moderate punctures, above frontal suture the punctures slightly larger, simple and less densely spaced. Pronotum convex, about two times as wide as long, slightly wider anteriorly, anterior angles broadly rounded and reflexed, sides short, nearly straight to obtusely rounded posterior angles, base noticeably arcuate, sides and base narrowly margined, minutely crenate-fimbriate, the extremely short setae barely visible; surface with small diagonal depressions on each side, the punctures close, mixed fine and moderate over central posterior disc, laterally more uniform in size but larger and closer,



FIGS 8-9.

Ataenius ambaritae n. sp.: 8. epipharynx; 9. aedeagus laterally.

the punctures along anterior margin very fine. Elytra widest just behind the middle, humeri doubly dentate with strong epipleural denticle and more or less developed, small denticle at 6th interval of each elytron; striae deep, strial punctures longitudinal, slightly crenating inner margins of the intervals; intervals nearly as wide as striae, cariniform, alutaceous with a median row of minutely setigerous punctures. Metasternum shining with long, deep midline terminating in deeper pores at each end, disc coarsely, not closely punctate. Abdominal sterna shining, closely punctate from side to side, finely crenate along anterior margin, crenations of terminal sternum longer and much deeper, terminal sternum closely and finely punctate. Middle and hind femora shining, narrow, with scattered, finely setigerous punctures generally separated by two to three times their diameters; middle femur with strong complete posterior femoral line; hind femur with fine incomplete line; apical fringe of posterior tibia of 6-8 setae, accessory spine absent; first posterior tarsal segment about one-third longer than the upper tibial spur and equal to the remaining segments combined.

Female. Last abdominal segment slightly longer than that of male.

Epipharynx. The bristles of chaetoparia very long and thick; 10-11 bristles of chaetopodium noticeably shorter, the same thickness as those of chaetoparia.

Affinity. Most closely resembles *Ataenius vethianus* A. Schm. known from Sumatra, but it is distinct. In *A. vethianus* the elytral striae are fine and shallow, intervals are flat and the first posterior tarsal segment is shorter than the remaining segments combined.

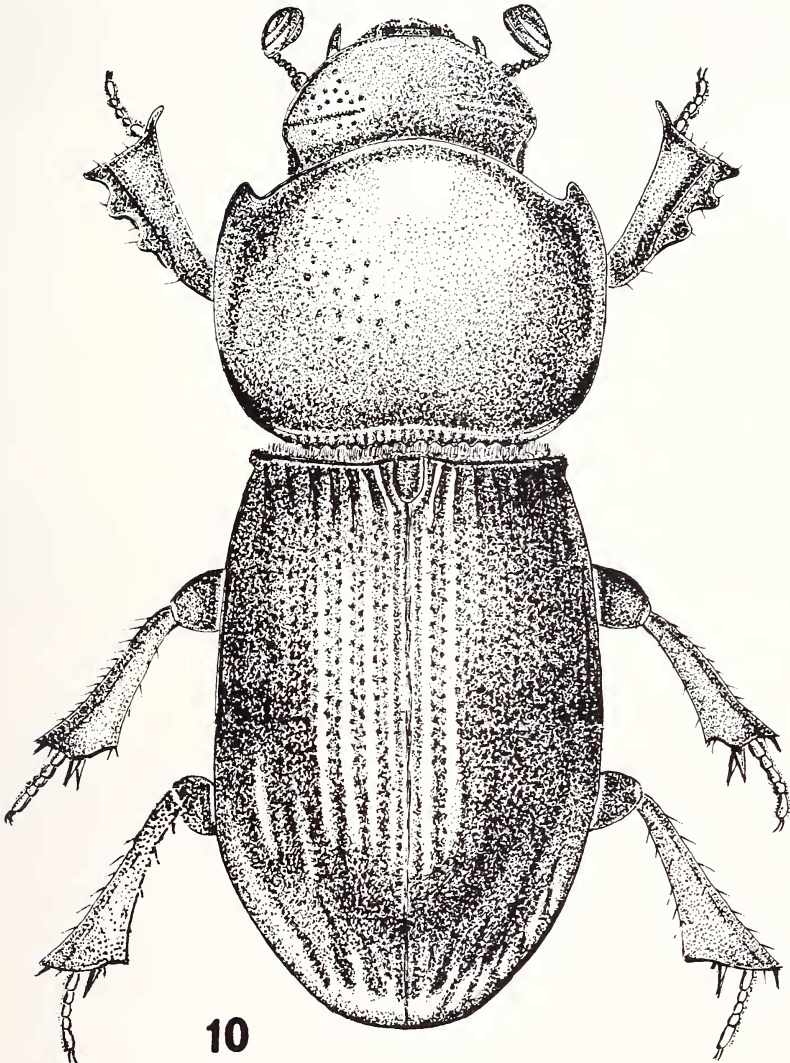


FIG. 10.

Palnia loebli Stebn., habitus.
(*Revue suisse Zool.*, 1985, 93 (3): 650, fig. 1 emended)

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